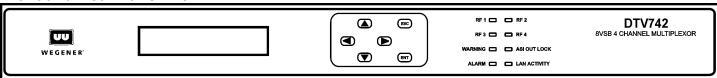
DTV742 Installation Quick Start Guide

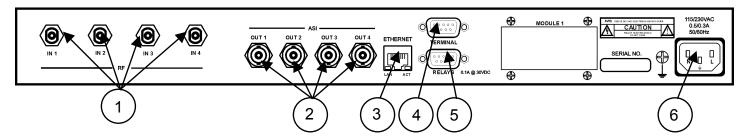
The Wegener Model DTV742 8VSB 4-Channel Multiplexor receives VHF/UHF broadcast HDTV signals and provides output ASI streams for connection to cable system QAM modulators. This guide provides information for setting up and operating the DTV742. Additional information may be found on the Wegener web site at www.wegener.com/

In addition to this guide, your box should include:

- 1. DTV742 8VSB 4-Channel Multiplexor
- 2. Power cord 3. UL safety sheet

Front and Rear Panel View





Connector/Pin-out Information

Rear-Panel Connector Descriptions							
Ref	Connector Designation	Туре	Signal Name	Description			
1	RF In 1, 2, 3, & 4	Type F	RF IN 1, RF IN 2, RF IN 3, & RF IN 4	From VHF/UHF Antenna			
2	ASI Out 1, 2, 3, & 4	BNC	ASI OUT 1, ASI OUT 2, ASI OUT 3, & ASI Out 2	To Advanced Cable Channel Groomer, DTV700, or ASI Mux			
3	Ethernet	RJ-45 jack	Ethernet_In & Out	To LAN – for Web Interface Control			
4	Terminal	DB-9 female	RxD (output) & TxD (input)	To Local Terminal			
5	Relays	DB-9 female	Alarm, Warning, & Contact Closures	To Alarm Monitoring			
6	115/230 VAC	IEC receptacle	AC Line In	To AC Power Outlet			

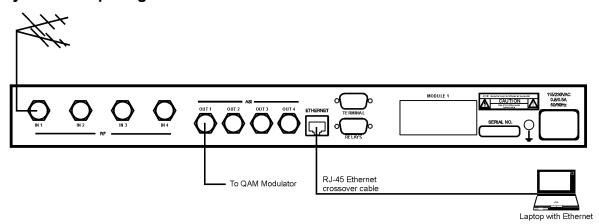
Status Relays Signals(Ref 4)				
Pin #	Function			
9	Close on Alarm or			
9	power failure			
4	Alarm COM			
8	Close on Warning			
3	Warning COM			
6	Open on Warning			
1	Not used			
7	7 Open on Alarm			
2	Not used			
5	Ground			

LED Indicator Descriptions					
LED	Description	LED	Description		
RF 1	ON – Tracking carrier OFF – No carrier	RF 2	ON – Tracking carrier OFF – No carrier		
RF 3	ON - Tracking carrier OFF – No carrier	RF 4	ON – Tracking carrier OFF – No carrier		
WARNING	ON – See LCD / web browser for details OFF – No Warnings	ASI OUT LOCK	ON – ASI output active OFF – No ASI output		
ALARM	ON – See LCD / web browser for details OFF – No alarms	LAN ACTIVITY	BLINKS – parameter is being changed via browser or SNMP		

Program and PSIP Processing

The unit tunes and demodulates 8VSB ATSC broadcast signals which are converted to ASI output transport streams. Selected programs and PSIP data received are passed through to the output ASI ports. PSIP processing may be enabled or disabled.

Basic System Setup Diagram



Front-panel User Interface

Note that from any screen, pressing the ESC key twice will return you to the Home Screen.

Main-level Screens	Second-level Screens	
Home Screen (rotates through data from each of the four RF inputs) RF3 CHAN: 20 8VSB	Serial Number and Application Software Version Number Screen	
SNR21.5 ErrSec:0002	S/N:XXXXX VER:YYY	
The channel number, modulation type (8VSB, 64QAM, or 256QAM), signal-to-noise ratio, and errored seconds are displayed for each input.	Where XXXXXX is the unit's six-digit serial number and YYY is the version number of the unit's currently installed application software.	
Press the key (if displayed) to go to Alarms/Warnings. Press the ENT key to view the second-level Serial Number and Application Software Version Number screen.	Press the ESC key to go to the Home Screen.	
Alarms/Warnings	2 nd -level Alarms/Warnings Message Screen	
View Alarms/Warnings	No Alarms or Warnings	
Press the ENT key to view any active alarms or warnings on the second-level Alarms/Warnings Message screen. Press the key to go to Clear Errored Seconds (if counter is non-zero) or Program Setup.	Any active alarms or warnings are described here. Press the key to view the next alarm or warning (if more than one). Press the ESC key to return to the Alarms/Warnings screen.	
Press the ESC key to go to the Home Screen.		
Clear Errored Secs Press <ent></ent>		
This screen only appears if the errored seconds counter is non-zero. Otherwise the next screen, Program Setup is displayed.		
Press the ENT to clear the errored seconds counter.		
Press the key to go to the Input Setup screen.		
Press the		
Press the ESC key to go to the Home Screen.		

Main-level Screens

Input Setup

Input Setup...

Press the **ENT** key to bring up the second-level Program Input screen.

Press the key to go to Program Status.

Press the \(\) key to go to Clear Errored Seconds (if counter is non-zero) or Alarms/Warnings.

Press the **ESC** key to go to the Home Screen.

Second-level Screens

2nd-level RF Input

RF Input X

Where **X** is the RF port number.

Press ENT to go to the third-level Input Setup Screens below and use the ♠ or ▼ keys to select <ON> or <OFF>, adding or removing this program to/from the output stream. Press ENT again to confirm.

Press the key to go to the next RF Input screen (1 through 4). Press the **ESC** key to return to the Input Setup screen.

3rd-level Tuner Enable

Tuner Enable:

Press the **ENT** key to toggle between ON and OFF, enabling or disabling the tuner.

Press the key to go to the Channel Number Selection screen.

Press the ESC key to return to the second-level RF Input screen.

3rd-level Channel Number Selection

Channel Number: XX

Where **XX** is the current channel number.

Press ENT to enter the edit mode and use the ♠ or ▼ keys to change the channel number. Press ENT again to confirm your selection or ESC to cancel changes.

Press the key to go to the RF Standard screen.

Press the \(\) key to go to the Tuner Enable screen.

Press the **ESC** key to return to the second-level RF Input screen.

3rd-level RF Standard

RF Standard: Broadcast

Press ENT and use the ^ or Veys to toggle the RF Standard between Broadcast and Cable. Press ENT again to confirm your selection or ESC to cancel changes.

Press the \(\) key to go to the Channel Selection screen.

Press the **ESC** key to return to the second-level RF Input screen.

Main-level Screens

Program Status

Program Status...

Press the **ENT** key to view the second-level program status screens.

Press the key to go to Panel Help Timeout.

Press the ◀ key to go to Input Setup.

Press the **ESC** key to go to the Home Screen.

Second-level Screens

2nd -level Program Status

Input Number:X

where \mathbf{X} is the input port number.

Press the **ENT** key to go to the third-level program status screen.

Press the key to go to the next input (1 through 4).

Press the **ESC** key to return to the main-level Program Status screen.

3rd-level Program Status

ProgIn XXXXX AAAAAAA Out:Y BBBBBBB

where **XXXXX** is the program number at input, **AAAAAA** is the service descriptor for the program, **Y** is the ASI output port, and **BBBBBB** is the available audio on the input for the program (AC-3, MPEG, or MPG/AC3).

Press the **ESC** key to return to the 2nd-level Program Status screen.

Panel Help Timeout 10

Press ENT and then the $^{\wedge}$ or $^{\vee}$ keys to select the front-panel help message timeout. Values of 3, 5, 10, 30, or 60 seconds, or No Timeout may be selected.

Press the ENT key to confirm the selection or ESC to cancel changes.

Press the key to go to IP Setup.

Press the \(\) key to go to Program Status.

Press the ESC key to go to the Home Screen.

Front-panel Help Timeout

Main-level Screens	Second-level Screens	
IP Setup	IP Address Selection	
Press the ENT key to go to IP Address Selection. Press the key to go to Reset Unit. Press the key to go to Panel Help Timeout. Press the ESC key to go to the Home Screen.	IP Address: 0.0.0.0 Press the ENT key and then press the arrow keys to change the IP address. Press the ENT key to confirm the selection or ESC to cancel changes. Press the key to go to the Netmask Selection. Press the ESC key to go to IP Setup.	
	Netmask Selection Netmask: 255.255.0.0	
	Press the ENT key and then press the arrow keys to change the Netmask. Press the ENT key to confirm the selection or ESC to cancel changes. Press the key to go to Gateway Selection. Press the key to go to IP Address Selection. Press the ESC key to go to IP Setup.	
	Gateway: 0.0.0.0 Press the ENT key and then press the arrow keys to change the Gateway. Press the ENT key to confirm the selection or ESC to cancel changes. Press the key to go to Netmask Selection. Press the ESC key to go to IP Setup.	
Unit Reset Reset Unit Press the ENT key to reset the unit and start the bootloader. Press the ⁴ key to go to IP Setup. Press the ESC key or ▶ to go to the Home Screen.		

Web Browser User Interface

In addition to the front panel, the user may control and monitor the unit using the rear-panel Ethernet connection. Before using the Ethernet connection, the appropriate IP address, netmask, and gateway must be selected via the front-panel interface. There are two basic methods of using the Ethernet connection – with a directly connected PC or with a LAN connection.

Locally connected PC -

Connect the DTV744 Ethernet connection to the Ethernet network connector on the PC using a crossover RJ-45 cable (8 pins).

Set the DTV744 IP Setup as follows: IP Address: 172.016.100.020 Netmask: 255.255.000.000

Gateway: 000.000.000.000

Set the PC IP address as follows: ¹ IP Address: 172.016.100.001 Subnet Mask: 255.255.000.000 Connect to the DTV742 using the web browser instructions below.

LAN Connection -

Connect the DTV742 Ethernet connection to the LAN using a normal RJ-45 cable (8 pins). Set the DTV744 IP Address, Netmask, and Gateway as directed by your network administrator. Use any PC on the LAN to connect to the DTV744 using the web browser instructions below.

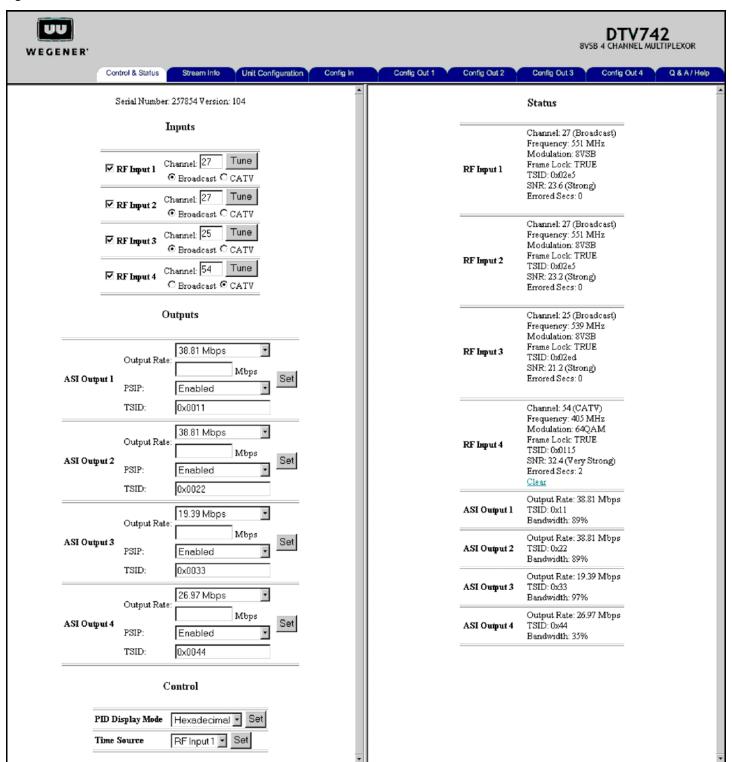
¹ To change the PC IP address, go to the Settings, Control Panel and double click on the Network icon. Select Configuration, TCP/IP protocol, and click on the Properties box. Click on Specify IP Address and set the IP Address and Subnet Mask as indicated. Click OK to restart the PC with the new values.

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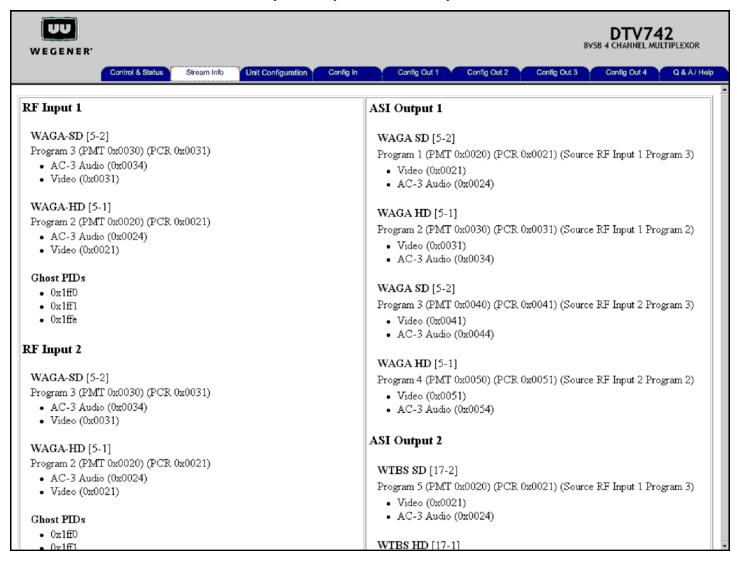
Using the Web Browser -

Using the web browser of your choice, set the Address to http://nnn.nnn.nnn where nnn.nnn.nnn is the IP address of the unit to be controlled. Each unit on the network must have a unique address. You should see the pages below when connected to the unit. (Be sure that your screen resolution is set to at least 1024x768 so that all items are visible. Lower resolutions will prevent you from viewing all the available tabs.) You may select which page to view by clicking on the <u>Control and Status</u>, <u>Stream Information</u>, <u>Unit Configuration</u>, <u>Config In</u>, <u>Config Out</u> (1, 2, 3, or 4), or <u>Q&A/Help</u> tabs.

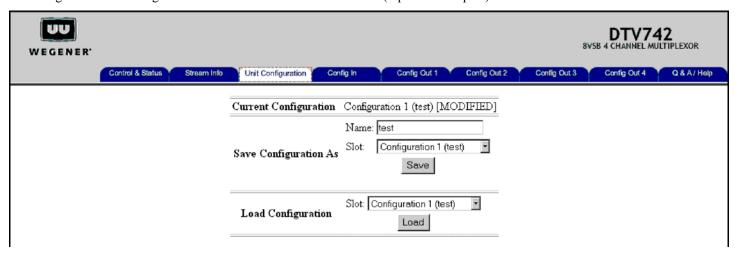
The **Control and Status** tab (shown below) allows you to select the channel number for the RF input. The status section provides signal status.



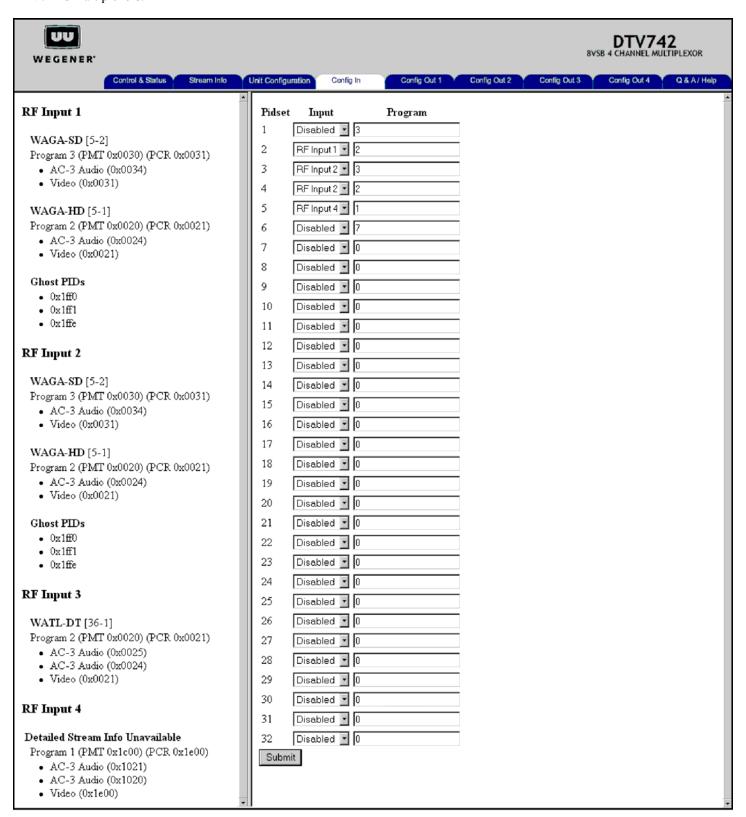
The **Stream Information** tab below shows input and output status. No user inputs are located on this screen.



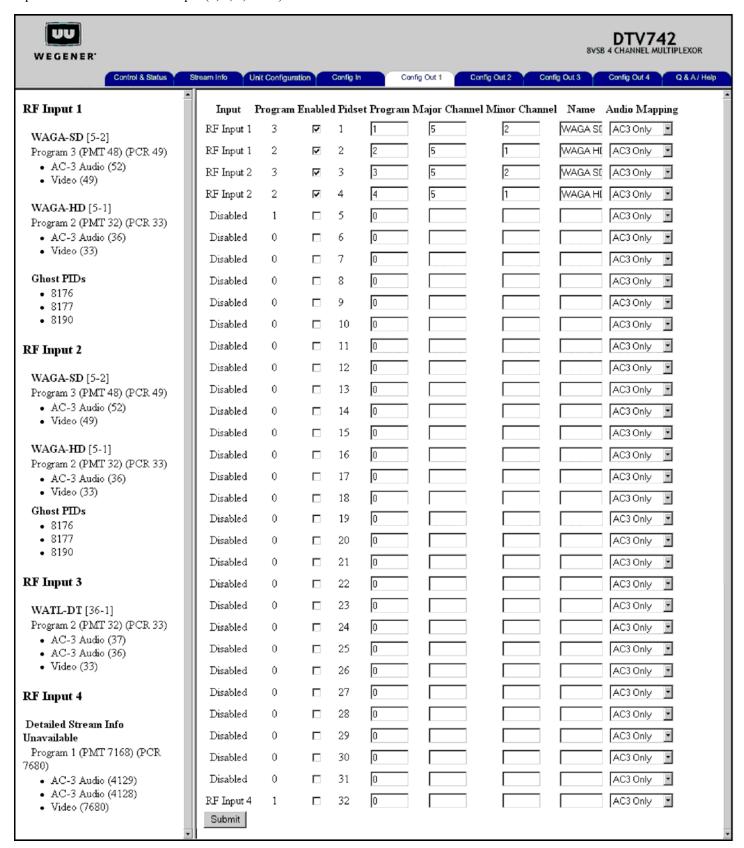
The **Unit Configuration** tab below shows the current configuration in use and allows storage and loading of 10 separate configurations. A configuration is the set of all user settable items (inputs and outputs) in the unit.



The **Config In** tab below provides the interface for selecting the RF Input and Program numbers that will be used in all four of the DTV742's multiplexors.



The **Config Out** tabs (**Config Out** 1 illustrated below) provide the interface for selecting programs for each of the ASI outputs. A separate tab is used for each output (1, 2, 3, and 4).



The Q&A/Help tab (shown below) provides answers to commonly asked questions about the DTV744.



Q & A / Help

Q: How do I set up my DTV742 to process four HDTV inputs?

A: First connect the off-air antenna to the four inputs. Use separate antennas or a single antenna with a splitter and line amplifier if necessary. Connect each of the ASI outputs to QAM modulators or other downstream processing equipment. Use the front panel controls and the web interface to tune the desired high definition TV stations. With a S/N of 20 dB or more, error-free reception should be achieved. Then use the web pages to select programs for each of the outputs.

Q: What does oversubscription mean?

A: An oversubscription warning on the Status screen for an ASI output means that the combined data rate of the programs selected for that output data rate. The problem is solved by either reducing the number of programs on the output or increasing the output data rate for that output.

Q: What is PSIP and how does the DTV742 process it?

A: Program and System Information Protocol is the ATSC standard for carrying program and system information in the transport data stream. Search for PSIP on the Internet for details on the protocol. The DTV742 receives PSIP information from the inputs, modifies it to eliminate conflicting data, and outputs the corrected information on the ASI outputs when PSIP Enable is turned on. Since different stations may have different time information, you may select which RF input to use to obtain time information for the DTV742.

Q: I don't have the latest version of software, how can I get an upgrade?

A: Call Wegener Customer Service for information on downloading and installing application software upgrades.

Q: If I have problems installing the DTV742, what do I do?

A: First check the User Manual to find any obvious errors. Then check www.wegener.com for any DTV help information. If more help is needed, call Wegener Customer Service at the number given in the manual or on the web site.

Notices

Environmental Operating Conditions & Physical Specifications				
Use	Indoor			
Altitude	Up to 2000 meters			
Temperature Range	10 ° C to 40 ° C			
Relative Humidity (max.)	80% for temperatures up to 31°C decreasing linearly to 50% relative humidity as 40°C.			
Weight	10.6 pounds or 4.81 kilograms			
Dimensions (H x W x D)	3.5"x 19"x 10.5" or 88.9 mm x 482.6 mm x 266.7 mm			
Input Power Rating	90-132Vac & 175-264Vac, 43 Watt, 50/60 Hz			

Elevated Operating Ambient

If equipment is installed in a closed or multi-unit rack assembly, the operating ambient of the rack may be greater than the room ambient. Therefore, considerations should be given to the TMRA, or Temperature inside the Mounting Rack, and not just inside the room.

Reduced Air Flow

Installation of the equipment in a rack should be such that the amount of airflow required for safe operation of the equipment is not compromised.

Mechanical Loading

Mounting of equipment in a rack should be such that a hazardous condition is not achieved due to uneven loading. This unit is not very heavy, but total rack loading should be considered.

Circuit Overloading

Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of circuits could have on over-current protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.

Reliable Earthing

Reliable earthing of rack-mounted equipment should be maintained. Particular attention should be given to supply connections other than direct connection to the Branch (use of power strips).

Desktop Installation

To set up the DTV735 in a desktop environment, place it on a flat surface where it will not be subject to being hit or pushed, and will not have anything spilled or dropped on it. Also, the cables connected to the unit should be routed so they are not hit or pulled, which might cause damage to the connectors or to the unit itself. Additionally, there should be sufficient flow of cool air so the unit stays within its operating parameters.

Rack Installation

When installed in an equipment rack, it is best that the DTV735 be supported by angle brackets or cross supports. These should be screwed or bolted securely to the equipment rack, and be capable of supporting the unit and its connecting cables. Do NOT install the unit if you have doubts about the unit being safely supported. There are also 4 holes in the front brackets, which are designed to accept screws for further anchoring. It is also essential that these brackets be used so the unit cannot be moved forward and fall from the rack. It is **always** best to install the angle brackets or cross-members before setting the unit in place. Then, prior to installing cables, put anchored screws or bolts-and-nuts into place on the front brackets. Failure to do this can lead to pushing the unit out the front of the rack in later steps.

Warranty

The following warranty applies to all Wegener Communications products. All Wegener Communications products are warranted against defective materials and workmanship for a period of one year after shipment to customer. Wegener Communications' obligation under this warranty is limited to repairing or, at Wegener Communications' option, replacing parts, subassemblies, or entire assemblies. Wegener Communications shall not be liable for any special, indirect, or consequential damages. This warranty does not cover parts or equipment, which have been subject to misuse, negligence, or accident by the customer during use. All shipping costs for warranty repairs shall be prepaid by the customer. There are no other warranties, express or implied, except as stated herein.

Technical Support

In the event the unit fails to perform as described, contact Wegener Communications Customer Service at (770) 814-4057, FAX (678) 624-0294, or E-mail "service@wegener.com".

Corporate Office Wegener 11350 Technology Circle Duluth, GA 30097 Service Department Wegener 359 Curie Drive Alpharetta, GA 30005